

PTO/SB/08A (10-07)

Approved for use through 10/31/2007. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1

of 4

**Complete if Known**

Application Number	09/480,837
Filing Date	January 10, 2000
First Named Inventor	Stephan Gehring et al.
Art Unit	2664
Examiner Name	Chirag G. Shah
Attorney Docket Number	00041

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 5,156,005	10-1992	Robert W. Redlich	
		US- 5,235,619	08-1993	Beyers et al.	
		US- 5,361,072	11-1994	Barrick et al.	
		US- 5,408,506	04-18-1995	Richard W Mincher	
		US- 5,517,505	05-1996	Buchholz et al.	
		US- 5,544,075	08-06-1996	Janex et al.	
		US- 5,646,623	07-1997	Walters et al.	
		US- 5,652,749	07-1997	Davenport et al.	
		US- 5,960,031	09-28-1999	Fullerton et al.	
		US- 5,966,448	10-12-1999	Hikari Namba et al.	
		US- 6,002,687	12-1999	Magee et al.	
		US- 6,041,051	03-2000	Doshi et al	
		US- 6,041,123	03-2000	Colvin	
		US- 6,161,181	12-2000	Hatnes et al.	
		US- 6,199,052	03-2001	Mitty et al.	
		US- 6,278,838	08-21-2001	Mendenhall et al.	
		US- 6,363,434	03-26-2002	Eytchison	
		US- 6,405,132	06-11-2002	Breed et al.	
		US- 6,480,483	11-2002	Yahata et al.	

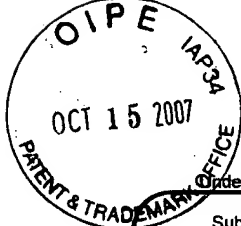
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
		WO 99/62216 A2	12-02-1999	PHILIPS AB		
		WO 99/46942 A	09-16-1999	Qualcom Incorporated		
		WO 01/20430 A2	03-22-2001	Anees Munshi		
		EP 1 295 450 B1	05-02-2007	Roberto Aiello		
		EP 1 052 793 A <sup>1</sup>	11-15-2003	Canon Kabushiki		
		EP 0 942 556 A	09-15-1999	Sony Corporation		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08A (10-07)

Approved for use through 10/31/2007. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2

of 4

**Complete if Known**

Application Number	09/480,837
Filing Date	January 10, 2000
First Named Inventor	Stephan Gehring et al.
Art Unit	2664
Examiner Name	Chirag G. Shah
Attorney Docket Number	00041

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 6,483,826	11-2002	Akerberg	
		US- 6,560,215	05-2003	Bloem et al.	
		US- 6,560,229	05-2003	Kadambi et al.	
		US- 6,580,704	06-2003	Wellig et al.	
		US- 6,587,946	07-2003	Jakobsson	
		US- 6,665,308	12-2003	Rakib et al.	
		US- 6,690,741	02-2004	Larrick et al.	
		US- 6,707,817	03-2004	Kadambi et al.	
		US- 6,816,510	11-2004	Banerjee	
		US- 6,839,350	01-2005	Inouchi et al.	
		US- 6,850,495	02-2005	Baum et al.	
		US- 6,901,106	05-2005	Chen et al.	
		US- 6,903,681	06-2005	Faris et al.	
		US- 6,907,044	06-2005	Yonge et al.	
		US- 6,909,728	06-2005	Kuribayashi et al.	
		US- 6,934,287	08-2005	Okamura	
		US- 6,941,454	09-2005	Spraggs	
		US- 7,058,414	06-2006	Rofheart et al.	
		US- 2002/190881	12-19-2002	Low Kay Soon et al.	

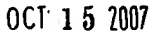
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		EP 0 864 959 A2 ·	03-12-1998	Makoto Saito		
		EP 0 669 741 A2 ·	01-24-1995	John L Klonowski		
		EP 0 307 962 A2 ·	03-22-1989	Sonetaka		

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Approved for use through 10/31/2007. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**Complete if Known**

**(Use as many sheets as necessary)**

Sheet	3	of	4
-------	---	----	---

Application Number	09/480,837
Filing Date	January 10, 2000
First Named Inventor	Stephan Gehring et al.
Art Unit	2664
Examiner Name	Chirag G. Shah00092
Attorney Docket Number	00041

[illegible][illegible]

**Examiner  
Signature**

Date	Considered
------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.*



PTO/SB/08B (10-07)

Approved for use through 10/31/2007. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/480,837
Filing Date	January 10, 2000
First Named Inventor	Stephan Gehring et al.
Art Unit	2664
Examiner Name	Chirag G. Shah
Attorney Docket Number	00041

Sheet	4	of	4
-------	---	----	---

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		M. Win, "Impulse Radio: How it Works", IEEE COMMUNICATIONS LETTERS, February 1998, IEEE, Vol. 2 No. 2, pp. 36-38.	
		"Following the IDF: Ultra Wide Band Wireless Data Transfer Technology", Digit-Life.com, 1997-2004. pages 1-6.	
		Schwartz, Mischa. "Information Transmission, modulation, and Noise" Fourth Edition. McGraw-Hill publishing Company, 1990, pp202-224.	
		Peter Clark, "Brit firm demos radio triangulation method to locate cellular 911 callers," EE Times, March 5, 1998, pages 1-4, CMP Media LLC, www.eetimes.com.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.